

the third wavelength band passes through the first color separation elements and is incident on the plurality of third pixels.

3. The image sensor of claim 2, wherein the image sensor is configured to obtain an intensity of at least one of the light having the first wavelength band, the light having the second wavelength band, and the light having the third wavelength band, based on the light having the first wavelength band and which is incident on the plurality of first pixels, the light having the second wavelength band and which is incident on the plurality of the second pixels arranged in the first pixel row and the plurality of second pixels arranged in the second pixel row, and the mixture of the light having the first wavelength band and the light having the third wavelength band, which is incident on the plurality of third pixels.

4. The image sensor of claim 1, further comprising a second color filter on a second pixel, the second color filter being configured to transmit only the light having the second wavelength band.

5. The image sensor of claim 1, further comprising third color filters on a first portion of the plurality of first pixels, third color filters being configured to transmit only the light having the third wavelength band,

wherein the first color filters are arranged on a second portion of the plurality of first pixels, and

wherein the first color filters and the third color filters are alternately arranged on the plurality of first pixels.

6. The image sensor of claim 5, wherein the image sensor is configured to obtain an intensity of at least one of the light having the first wavelength band, the light having the second wavelength band, and the light having the third wavelength band, based on the light having the first wavelength band which passes the first color filters and is incident on the second portion of the plurality of first pixels, the light having the third wavelength band which passes the third color filters and is incident on the first portion of the plurality of the first pixels, the light having the second wavelength band which is incident on the plurality of the second pixels arranged in the first pixel row and the plurality of second pixels arranged in the second pixel row, and the mixture of the light having the first wavelength band and the light having the third wavelength band, which is incident on the plurality of third pixels.

7. The image sensor of claim 1, wherein adjacent first color separation elements are positioned to have an angle of about 90 degrees with respect to each other.

8. The image sensor of claim 1, wherein the plurality of second pixels arranged in the first pixel row and the plurality of second pixels arranged in the second pixel row are arranged in a first diagonal direction, and

wherein the plurality of first pixels in the first pixel row and the plurality of third pixels in the second pixel row are arranged in a second diagonal direction crossing the first diagonal direction.

9. The image sensor of claim 8, wherein the first color separation elements extend in at least one of the first diagonal direction and the second diagonal direction.

10. The image sensor of claim 8, wherein a first separation element among the first color separation elements comprises:

a first sub-color separation element that extends in the first diagonal direction; and

a second sub-color separation element that extends in the second diagonal direction.

11. The image sensor of claim 1, further comprising second color separation elements arranged to respectively face the plurality of first pixels and the plurality of third pixels and configured to allow the light having the second wavelength band, among the incident light, to pass therethrough and travel in the lateral direction, and configured to allow the mixture of the light having the first wavelength band and the light having the third wavelength band to pass therethrough and travel in the downward direction.

12. The image sensor of claim 11, wherein adjacent first and second color separation elements are positioned to have an angle of about 90 degrees with respect to each other.

13. The image sensor of claim 11, wherein the plurality of second pixels arranged in the first pixel row and the plurality of second pixels arranged in the second pixel row are arranged in a first diagonal direction,

wherein the plurality of first pixels in the first pixel row and the plurality of third pixels in the second pixel row are arranged in a second diagonal direction crossing the first diagonal direction, and

wherein the first and second color separation elements respectively extend in at least one of the first diagonal direction and the second diagonal direction.

14. The image sensor of claim 11, wherein the plurality of second pixels arranged in the first pixel row and the plurality of second pixels arranged in the second pixel row are arranged in a first diagonal direction,

wherein the plurality of first pixels and the plurality of third pixels are arranged in a second diagonal direction crossing the first diagonal direction, and

wherein a first color separation element and a second color separation element respectively comprise:

a first sub-color separation element that extends in the first diagonal direction; and

a second sub-color separation element that extends in the second diagonal direction.

15. The image sensor of claim 1, further comprising a transparent dielectric layer on the pixel array,

wherein the first color separation elements are positioned in the transparent dielectric layer, and

wherein the first color filter is between the pixel array and the transparent dielectric layer.

16. An image sensor comprising:

a pixel array comprising a first pixel row, in which a plurality of first pixels and a plurality of second pixels are alternately arranged, and a second pixel row, in which a plurality of second pixels and a plurality of third pixels are alternately arranged;

color separation elements arranged to respectively face the plurality of first pixels and the plurality of third pixels, the color separation elements being configured to allow light having a second wavelength band, among incident light, to pass therethrough and travel in a lateral direction, and to allow a mixture of light having a first wavelength band and light having a third wavelength band, among the incident light, to pass therethrough and travel in a downward direction; and

first color filters on at least a portion of the plurality of first pixels, the first color filters being configured to transmit only the light having the first wavelength band.

17. The image sensor of claim 16, wherein the light having the second wavelength band passes through the color separation elements and is incident on the plurality of